

THREOSE OR LYSYL OXIDASE OR RIBOSE

=> s 11 and 12

L4 1348 L1 AND L2

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L5 353 L1 AND L3

=> s 11 and 12 and 13

L6 86 L1 AND L2 AND L3

=> s 14 and (PY<2002 or AY<2002 or PRY<2002)

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21899783 PY<2002  
4186606 AY<2002  
3663585 PRY<2002

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3663585 PRY<2002

L9 31 L6 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> file stnguide

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FULL ESTIMATED COST	2.60	3.86

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LAST RELOADED: Sep 7, 2007 (20070907/UP).

=> d 19 1-31 ti

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L9 ANSWER 1 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Natural collagens crosslinked with non-toxic crosslinking agents  
to resist progressive spinal deformity

L9 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Non-toxic crosslinking reagents to resist curve progression in  
scoliosis and increase disc permeability

L9 ANSWER 3 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Methods, devices, and collagen-containing preparations for  
intervertebral disc treatment

L9 ANSWER 4 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Use of non-toxic crosslinking reagents to improve fatigue resistance and reduce mechanical degradation of intervertebral disc and other collagenous tissues

L9 ANSWER 5 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Thiazolium as cross-link reversing agents for collagenous proteins

L9 ANSWER 6 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes

L9 ANSWER 7 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Biocompatible osteogenic band made of natural, biosynthetic or synthetic materials, such as polymers, for repair of spinal disorders

L9 ANSWER 8 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Method for controlling the chemical and heat induced responses of collagenous materials

L9 ANSWER 9 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Fluid matrix comprising crosslinked remodelable collagen compositions for treating intervertebral disc degeneration

L9 ANSWER 10 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Anabolic effect of long-term estrogen replacement on bone collagen in elderly postmenopausal women with osteoporosis

L9 ANSWER 11 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Effect of high doses of oral risedronate (20 mg/day) on serum parathyroid hormone levels and urinary collagen cross-link excretion in postmenopausal women with spinal osteoporosis

L9 ANSWER 12 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI COL9A2 Allelotypes in Intervertebral Disc Disease

L9 ANSWER 13 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Elevated protein content and prolyl 4-hydroxylase activity in severely degenerated human annulus fibrosus

L9 ANSWER 14 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Polymeric system for repairing intervertebral discs

L9 ANSWER 15 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Three year followup of bone mineral density change in premenopausal women with systemic lupus erythematosus

L9 ANSWER 16 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Tissue implant comprising collagen and a hydrated alginate gel matrix

L9 ANSWER 17 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Urinary collagen crosslinks reflect further bone loss of femoral neck in osteoporotic patients undergoing vitamin D therapy

L9 ANSWER 18 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Serum collagen crosslinks as markers of bone turnover during GH replacement therapy in growth hormone deficient adults

L9 ANSWER 19 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Bone mineral density and biochemical markers of bone turnover in healthy elderly men and women

L9 ANSWER 20 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Evaluation of two crosslinked collagen gels implanted in the transected spinal cord

L9 ANSWER 21 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Method to detect bone and other connective tissue disorders in humans and animals by assessment of levels of native free collagen-derived crosslinks in biological fluids, and antibodies specifically immunoreactive with forms of crosslinks

L9 ANSWER 22 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Collagen crosslinking and cartilage glycosaminoglycan composition in normal and scoliotic chickens

L9 ANSWER 23 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Collagen stability and cross-linking in normal and kyphoscoliotic mouse intervertebral disks

L9 ANSWER 24 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Solubilization of low intramolecular cross-linking collagen from several tissues of carp by administration of  $\beta$ -aminopropionitrile

L9 ANSWER 25 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Type VI collagen of the intervertebral disc. Biochemical and electron-microscopic characterization of the native protein

L9 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Crosslinked collagen surface for cell culture that is stable, uniform, and optically superior to conventional surfaces

L9 ANSWER 27 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Mechanical properties and control of nonmuscular catch in spine ligaments of the sea urchin, *Strongylocentrotus franciscanus*

L9 ANSWER 28 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Scoliosis in chickens: responsiveness of severity and incidence to dietary copper

L9 ANSWER 29 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Quantitation of hydroxypyridinium crosslinks in collagen by high-performance liquid chromatography

L9 ANSWER 30 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Collagen cross-linking

L9 ANSWER 31 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Elevated hair copper level in idiopathic scoliosis. Preliminary observations

=> d 19 1 2 3 4 8 11 16 20 22 25 26 30 ti abs bib

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L9 ANSWER 1 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Natural collagens crosslinked with non-toxic crosslinking agents to resist progressive spinal deformity

AB A method of improving the resistance of collagenous tissue to mech. degradation in accordance with the present invention comprises the step of contacting at least a portion of a collagenous tissue with an effective amount of a crosslinking reagent. Methods and devices for enhancing the body's own efforts to stabilize disks in scoliotic and

other progressively deforming spines by increasing collagen crosslinks. This stability enhancement is caused by reducing the bending hysteresis and increasing the elasticity and bending stiffness of progressively deforming spines, by injecting non-toxic crosslinking reagents into the convex side of disks involved in the potential or progressing deformity curve. Alternatively, contact between the tissue and the crosslinking reagent is effected by placement of a time-release delivery system directly into or onto the target tissue. Methods and devices that use crosslinking agents for increasing the permeability of an intervertebral disk, improving fluid flux to the intervertebral disk, and increasing the biol. viability of cells within the intervertebral disk are provided.

AN 2007:873614 HCAPLUS <<LOGINID::20070911>>  
 DN 147:220111  
 TI Natural collagens crosslinked with non-toxic crosslinking agents to resist progressive spinal deformity  
 IN Hedman, Thomas P.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 17pp., Cont.-in-part of U.S. Ser. No. 786,861.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2007183973	A1	20070809	US 2006-346464	20060202 <--
	US 2003049301	A1	20030313	US 2002-230671	20020829 <--
	US 2004253219	A1	20041216	US 2004-786861	20040224 <--
	US 2007196351	A1	20070823	US 2007-712684	20070228 <--
	US 2007202143	A1	20070830	US 2007-726790	20070322 <--
PRAI	US 2001-316287P	P	20010831	<--	
	US 2002-230671	A2	20020829		
	US 2003-498790P	P	20030828		
	US 2004-786861	A2	20040224		
	US 2006-346464	A2	20060202		
	US 2007-712684	A2	20070228		

L9 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Non-toxic crosslinking reagents to resist curve progression in scoliosis and increase disc permeability  
 AB A method of improving the resistance of collagenous tissue to mech. degradation in accordance with the present invention comprises the step of contacting at least a portion of a collagenous tissue with an effective amount of a crosslinking reagent, i.e., genipin, ribose, threose, and lysyl oxidase. Methods and devices for enhancing the body's own efforts to stabilize disks in scoliotic spines by increasing collagen crosslinks. This stability enhancement is caused by reducing the bending hysteresis and increasing the bending stiffness of scoliotic spines, by injecting non-toxic crosslinking reagents into the convex side of disks involved in the scoliotic curve. Alternatively, contact between the tissue and the crosslinking reagent is affected by placement of a time-release delivery system directly into or onto the target tissue. Methods and devices that use crosslinking agents for increasing the permeability of an intervertebral disk, improving fluid flux to the intervertebral disk, and increasing the biol. viability of cells within the intervertebral disk are provided.  
 AN 2004:1080506 HCAPLUS <<LOGINID::20070911>>  
 DN 142:62696  
 TI Non-toxic crosslinking reagents to resist curve progression in scoliosis and increase disc permeability  
 IN Hedman, Thomas P.  
 PA University of Southern California, USA  
 SO U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U.S. Ser. No. 230,671.

CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004253219	A1	20041216	US 2004-786861	20040224 <--
	US 2003049301	A1	20030313	US 2002-230671	20020829 <--
	AU 2004268628	A1	20050310	AU 2004-268628	20040827
	CA 2536415	A1	20050310	CA 2004-2536415	20040827
	WO 2005020862	A1	20050310	WO 2004-US28039	20040827
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1660001	A1	20060531	EP 2004-782506	20040827
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	JP 2007504162	T	20070301	JP 2006-524909	20040827
	US 2007183973	A1	20070809	US 2006-346464	20060202 <--
	US 2007196351	A1	20070823	US 2007-712684	20070228 <--
	US 2007202143	A1	20070830	US 2007-726790	20070322 <--
PRAI	US 2001-316287P	P	20010831	<--	
	US 2002-230671	A2	20020829		
	US 2003-498790P	P	20030828		
	US 2004-786861	A	20040224		
	WO 2004-US28039	W	20040827		
	US 2006-346464	A2	20060202		
	US 2007-712684	A2	20070228		

L9 ANSWER 3 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Methods, devices, and collagen-containing preparations for intervertebral disc treatment  
AB A therapeutic method for treating mammalian intervertebral disks comprises injecting under pressure a preparation of crosslinked collagen into the intra-discal space. The intervertebral distance in injected disks is immediately increased by the treatment. At least some mech. properties of the treated vertebral column are preserved or partially restored. The method may be used to relieve back pain in patients, to increase patient height and to stabilize the spinal column. The therapeutic method may result in at least a partial regeneration of the nucleus pulposus, and/or development of cartilaginous or fibrocartilaginous tissues or dense fibrous tissues.  
AN 2003:472329 HCAPLUS <<LOGINID::20070911>>  
DN 139:26712  
TI Methods, devices, and collagen-containing preparations for intervertebral disc treatment  
IN Pitaru, Shahr; Noff, Matitiau  
PA Colbar R & D Ltd., Israel  
SO PCT Int. Appl., 84 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003049669	A2	20030619	WO 2002-IL997	20021210 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,  
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002358957 A1 20030623 AU 2002-358957 20021210 <--  
JP 2005511207 T 20050428 JP 2003-550720 20021210 <--  
MX 2004PA05707 A 20050620 MX 2004-PA5707 20040610 <--  
PRAI US 2001-337145P P 20011210 <--  
WO 2002-IL997 W 20021210

L9 ANSWER 4 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Use of non-toxic crosslinking reagents to improve fatigue  
resistance and reduce mechanical degradation of intervertebral disc and  
other collagenous tissues  
AB A method of improving the resistance of collagenous tissue to  
mech. degradation in accordance with the present invention comprises the step  
of contacting at least a portion of a collagenous tissue with an  
effective amount of a crosslinking reagent. The  
crosslinking reagent includes a crosslinking agent such  
as genipin and/or proanthocyanidin. Further, the  
crosslinking reagent may include a crosslinking agent in  
a carrier medium. The collagenous tissue to be contacted with  
the crosslinking reagent is preferably a portion of an  
intervertebral disk or articular cartilage. The contact between the  
tissue and the crosslinking reagent is effected by injections  
directly into the select tissue using a needle. Alternatively, contact  
between the tissue and the crosslinking reagent is effected by  
placement of a time-release delivery system such as a gel or ointment, or  
a treated membrane or patch directly into or onto the target tissue.  
Contact may also be effected by, for instance, soaking.  
AN 2003:202381 HCAPLUS <<LOGINID::20070911>>  
DN 138:226799  
TI Use of non-toxic crosslinking reagents to improve fatigue  
resistance and reduce mechanical degradation of intervertebral disc and  
other collagenous tissues  
IN Hedman, Thomas P.  
PA University of Southern California, USA  
SO PCT Int. Appl., 25 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003020031	A1	20030313	WO 2002-US27677	20020829 <--
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	CA 2458821	A1	20030313	CA 2002-2458821	20020829 <--
	AU 2002335683	A1	20030318	AU 2002-335683	20020829 <--
	EP 1432312	A1	20040630	EP 2002-770446	20020829 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
 JP 2005501874 T 20050120 JP 2003-524354 20020829 <--  
 CN 1578624 A 20050209 CN 2002-821684 20020829 <--  
 PRAI US 2001-316287P P 20010831 <--  
 WO 2002-US27677 W 20020829  
 RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ,TI Method for controlling the chemical and heat induced responses of  
 collagenous materials  
 AB The present invention provides a method for strengthening collagen  
 in collagenous tissue which uses the controlled application of  
 heat to induce shrinkage or contraction of the collagen in the  
 tissue and a crosslinking means which cross-links the shrunken  
 collagen in the tissue thereby stabilizing and strengthening  
 collagenous tissue. In particular, the present invention provides  
 an in vivo method for treating joint instability problems, controlled  
 manipulation of skin structure and properties, and other problems  
 involving collagen-containing tissues. The present invention  
 further provides an in vitro method for stabilizing collagenous  
 tissue for use in vivo or in vitro. Further, the present invention  
 provides a method for treating collagenous tissue and testing  
 the strength and stability of the treated tissue.

AN 2002:309727 HCAPLUS <<LOGINID::20070911>>  
 DN 136:304120  
 TI Method for controlling the chemical and heat induced responses of  
 collagenous materials  
 IN Aksan, Alptekin; McGrath, John J.  
 PA Board of Trustees of Michigan State University, USA  
 SO U.S., 18 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6375672	B1	20020423	US 2000-532327	20000321 <--
PRAI	US 1999-125521P	P	19990322 <--		

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 TI Effect of high doses of oral risedronate (20 mg/day) on serum parathyroid  
 hormone levels and urinary collagen cross-link excretion in  
 postmenopausal women with spinal osteoporosis  
 AB This work describes the biol. effects of risedronate, a pyridinyl  
 bisphosphonate, on bone and assessed the safety and tolerability of  
 risedronate when given at high doses, with or without calcium, to  
 postmenopausal women with spinal osteoporosis. This study  
 included 32 postmenopausal white women with at least one radiog. confirmed  
 vertebral compression fracture. The patients were randomized to one of  
 four different dose regimen groups: (1) R-P, risedronate 20 mg/day for 14  
 days, followed by placebo for 42 days; (2) R-CP-P, risedronate 20 mg/day  
 for 14 days, followed by elemental calcium 1000 mg/day and placebo for 14  
 days, then by placebo for 28 days; (3) R-CP-R-CP, risedronate 20 mg/day  
 for 7 days, followed by elemental calcium 1000 mg/day and placebo for 21  
 days, then risedronate 20 mg/day for 7 days, and finally elemental calcium  
 1000 mg/day and placebo for 21 days; and (4) P, placebo for 56 days. The  
 biol. response was investigated by measuring serum calcium, parathyroid  
 hormone (PTH), and 2-h urinary pyridinoline/creatinine (Pyr/Cr) and  
 deoxypyridinoline/creatinine (DPyr/Cr) ratios before treatment and on days  
 3, 7, 14, 21, 28, 35, 42, 49, 56, and 84. Overall, there were no

consistent trends between the effects of treatment and placebo on serum calcium. In groups R-P, R-CP-P, and R-CP-R-CP, mean serum PTH levels were elevated above basal values for the entire 56-day treatment period and remained elevated, although to a lesser extent, at the day-84 follow-up visit. The effect of calcium supplementation on PTH was variable. Urinary Pyr/Cr and DPyr/Cr ratios were decreased from basal values over the entire study period in all groups receiving risedronate. The maximum percent decreases from basal values for Pyr/Cr and DPyr/Cr were -46.9% and -58.8%, resp., on day 49 in the R-CP-R-CP group. In conclusion, risedronate given orally at 20 mg/day, continuously for 7 or 14 days, resulted in the expected biol. response in osteoporotic women. The time course of changes in PTH levels following cessation of treatment was unaffected by calcium supplementation. There was no evidence of a PTH-mediated rebound in bone resorption following cessation of therapy. Furthermore, as determined by collagen cross-link data, patients did not show an excessive reduction in bone turnover.

AN 2001:93177 HCAPLUS <<LOGINID::20070911>>

DN 135:132365

TI Effect of high doses of oral risedronate (20 mg/day) on serum parathyroid hormone levels and urinary collagen cross-link excretion in postmenopausal women with spinal osteoporosis

AU Zegels, B.; Eastell, R.; Russell, R. G. G.; Ethgen, D.; Roumagnac, I.; Collette, J.; Reginster, J.-Y.

CS Bone and Cartilage Metabolism Unit, University of Liege, Liege, Belg.

SO Bone (New York) (2001), 28(1), 108-112

CODEN: BONEDL; ISSN: 8756-3282

PB Elsevier Science Inc.

DT Journal

LA English

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 16 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Tissue implant comprising collagen and a hydrated alginate gel matrix

AB A biomech. implant is described which comprises at least two matrix components, the first matrix component being composed of collagen with a porous macrostructure with the ability to withstand tensile or shear forces, the second matrix component being a hydrated alginate gel which substantially fills the porous macrostructure of the first component and exerts a swelling pressure, the implant addnl. comprising a population of cells comprising chondrocytes, fibrochondrocytes, fibroblasts or osteoblasts, or precursors thereof. Collagens gels with chondrocytes were placed in wells of a tissue culture plate and a 2% alginate in Earle's buffered salt solution containing 4x10<sup>6</sup> cells/mL in DMEDM and 10% fetal calf serum was gently layered on top of the collagen gel or sponge. The tissue culture plate was centrifuged at 100 g for 5 min to incorporate the alginate and cell suspension within the collagen gel or sponge. Crosslinking of the alginate was affected by bathing the construct in a solution of 100 mM CaCl<sub>2</sub> in DMEM/10% fetal calf serum. The tangents modulus and equilibrium modulus of the gel was 85, and 32 Pa, resp.

AN 1998:624018 HCAPLUS <<LOGINID::20070911>>

DN 129:250239

TI Tissue implant comprising collagen and a hydrated alginate gel matrix

IN Lee, David Alan; Bader, Daniel Lawrence; Stephens, Myra Debokeh

PA University College London, UK; Queen Mary & Westfield College

SO PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI  WO 9840111      A1      19980917      WO 1998-GB673      19980306 <--
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          KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,
          NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
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          GA, GN, ML, MR, NE, SN, TD, TG

AU 9865066      A      19980929      AU 1998-65066      19980306 <--
EP 1019109      A1      20000719      EP 1998-910834      19980306 <--
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JP 2001514551    T      20010911      JP 1998-539340      19980306 <--
US 6306169      B1      20011023      US 1998-188165      19981109 <--
PRAI GB 1997-4749      A      19970307      <--
      WO 1998-GB673      W      19980306      <--
RE.CNT 9      THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
      ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L9 ANSWER 20 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Evaluation of two crosslinked collagen gels implanted in the transected spinal cord

AB In previous expts., we have shown that spinal axons grow into a collagen matrix implanted between the stumps of a transected spinal cord. However, the matrix became denatured after 2 to 3 mo. To improve the stability and the durability of the collagen gel implants, collagen was copptd. with chondroitin 6-sulfate (C-6-S) or chemical crosslinked with carbodiimide (CD). The spinal cords were taken out after 3 days, 1, 3, or 6 mo and analyzed using different histol. and tracing techniques. The crosslinked collagen matrixes underwent major structural changes. Crosslinking treatments improved the stability of collagen implants which withstood at least 6 mo. Axons revealed with DiI or silver staining crossed the proximal interface and grew into the bioimplants. Some axons were also followed across the distal bioimplant-spinal interface in DiI treated tissues. This study suggests that crosslinking the collagen hydrogel has improved the mech. properties of the matrix, modified the normal scarring process, and favored axonal regeneration.

AN 1993:240878 HCAPLUS <<LOGINID::20070911>>

DN 118:240878

TI Evaluation of two crosslinked collagen gels implanted in the transected spinal cord

AU Marchand, R.; Woerly, S.; Bertrand, L.; Valdes, N.

CS Cent. Rech. Neurobiol., Hop. Enfant-Jesus, Quebec, QC, G1K 7P4, Can.

SO Brain Research Bulletin (1993), 30(3-4), 415-22

CODEN: BRBUDU; ISSN: 0361-9230

DT Journal

LA English

L9 ANSWER 22 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Collagen crosslinking and cartilage glycosaminoglycan composition in normal and scoliotic chickens

AB The amts. of lysine-derived crosslinks in collagens from tendon, cartilage, intervertebral disk, and bone and changes in the composition of sternal cartilage glycosaminoglycans were estimated in two lines of chickens, a control-isogenic line and a line that develops scoliosis. In the scoliotic line, scoliosis first appears at 3-4 wk and progressively increases in severity and incidence so that 90% of the birds express the lesion by week 10. It was reported previously that cartilage, tendon, and bone collagens from scoliotic birds are more soluble than corresponding collagens from normal birds. Herein, collagen crosslinking and altered proteoglycan metabolism are examined as

possible mechanisms for the differences in collagen solubility At 1 wk of age, there were fewer reducible crosslinking amino acids (hydroxylsinonorleucine, dihydroxylysinnorleucine, and lysinnorleucine) in collagens from sternal cartilage and tendon in the scoliotic line than in the isogenic line. However, by week 3 and at weeks 5 or 7 values were similar in both groups. The amts. of hydroxypyridinium in vertebral bone and intervertebral disk collagen were also similar in both groups of birds. Consequently, differences in collagen crosslinking do not appear to be a persistent developmental defect underlying the expression of scoliosis in the model. However, differences were observed in cartilage proteoglycans and glycosaminoglycans from the scoliotic line that were not present in cartilage from the isogenic line. The average mol. weight of the uronide-containing

glycosaminoglycans

was 30% less in the scoliotic line than in the isogenic line, i.e., 12,000 compared to 18,000. The size distribution of cartilage proteoglycans from the scoliotic line also differed from that of proteoglycans from the isogenic line. An overly sulfated chondroitin also appeared to be a minor component of the glycosaminoglycans in cartilage from the scoliotic line. This chondroitin was not observed in cartilage from the isogenic line of chickens.

AN 1989:21883 HCAPLUS <<LOGINID::20070911>>

DN 110:21883

TI Collagen crosslinking and cartilage glycosaminoglycan composition in normal and scoliotic chickens

AU Greve, Carl; Opsahl, William; Reiser, Karen; Abbott, Ursula; Kenney, Cristina; Benson, Daniel; Rucker, Robert

CS Dep. Nutr., Univ. California, Davis, CA, 95616, USA

SO Biochimica et Biophysica Acta, General Subjects (1988), 967(2), 275-83

CODEN: BBGSB3; ISSN: 0304-4165

DT Journal

LA English

L9 ANSWER 25 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Type VI collagen of the intervertebral disc. Biochemical and electron-microscopic characterization of the native protein

AB The collagen framework of the intervertebral disk contains 2 major fibril-forming collagens, types I and II. Smaller amts. of other types of collagen are also present. On examination of the nature and distribution of these minor collagens within bovine disk tissue, type VI collagen was found to be unusually abundant. It accounted for .apprx.20% of the total collagen in calf nucleus pulposus, and .apprx.50% in the annulus fibrosus. By serially digesting disk tissue with chondroitin ABC lyase and Streptomyces hyaluronidase, native covalent polymers of type VI collagen could be extracted Electron micrographs of this material prepared by rotary shadowing revealed the characteristic dimensions of tetramers and double tetramers of type VI mols., with their central rods and terminal globular domains. Mol.-sieve column chromatog. on agarose under nonreducing, nondenaturing conditions gave a series of protein peaks with mol. sizes equivalent to the tetramer, double tetramer, and higher multimers. On SDS-PAGE after SS bond cleavage, these fractions of type VI collagen all showed a main band at mol. weight (Mr) 140,000 and 4 lesser binds of Mr 180,000-240,000. On electrophoresis without SS bond cleavage in agarose-2.4% polyacrylamide only dimeric (6 chains) and tetrameric (12 chains) forms of type VI mols. were present. The ability to extract all the type VI collagen of the tissue in 4M guanidinium chloride, and the absence of aldehyde-mediated crosslinking residues on direct anal., showed that, in contrast with most matrix collagens, type VI collagen does not function as a covalently crosslinked structural polymer.

AN 1987:631753 HCAPLUS <<LOGINID::20070911>>

DN 107:231753

TI Type VI collagen of the intervertebral disc. Biochemical and

electron-microscopic characterization of the native protein  
AU Wu, Jiann Jiu; Eyre, David R.; Slayter, Henry S.  
CS Sch. Med. Med., Univ. Washington, Seattle, WA, 98195, USA  
SO Biochemical Journal (1987), 248(2), 373-81  
CODEN: BIJOAK; ISSN: 0306-3275  
DT Journal  
LA English

L9 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Crosslinked collagen surface for cell culture that is stable,  
uniform, and optically superior to conventional surfaces  
AB A new type of collagen surface for use with cultures of  
peripheral nervous system cells is described. Collagen is  
derivatized to plastic culture dishes by a crosslinking reagent,  
1-cyclohexyl-3-(2-morpholinoethyl)carbodiimide-metho-p-toluenesulfonate  
(carbodiimide), to form a uniform and durable surface for cell attachment  
and growth that allows dry storage, long-term culture, and improved  
microscopy. Surfaces of collagen derivatized to plastic were  
compared to surfaces of adsorbed or ammonia-polymerized collagen in  
terms of collagen binding and detachment, growth of dorsal root  
ganglion cells, and electron microscopic appearances. Derivatized  
collagen surfaces retained more collagen and showed much  
less evidence of degradation and cellular damage over periods of many weeks  
than did conventional adsorbed surfaces. Long-term survival of cells on  
derivatized collagen was far superior to that on the other  
surfaces, with .apprx.90% of cultures still viable after 10 wk.  
Transmission electron microscopy showed an organized layer of single  
fibrils that supported cell growth well, and SEM demonstrated an increased  
uniformity of derivatized collagen surfaces compared to  
ammoniated collagen surfaces. Applications for this improved  
substrate surface are discussed.

AN 1986:65340 HCAPLUS <<LOGINID::20070911>>  
DN 104:65340  
TI Crosslinked collagen surface for cell culture that is stable,  
uniform, and optically superior to conventional surfaces  
AU Macklis, Jeffrey D.; Sidman, Richard L.; Shine, H. David  
CS Dep. Neurosci., Child. Hosp., Boston, MA, 02115, USA  
SO In Vitro (1985), 21(3, pt. 1), 189-94  
CODEN: ITCSAF; ISSN: 0073-5655  
DT Journal  
LA English

L9 ANSWER 30 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
TI Collagen cross-linking  
AB The biochem. of collagen crosslinking was summarized,  
and an abnormal crosslinking structure in collagen of  
anulus fibrosus in a patient with Ehlers-Danlos syndrome subtype VI was  
reported. In addition to the normal hydroxypyridinium (HP) crosslink  
, collagen contained a more basic HP crosslink which  
is probably lysine-HP. The 2 crosslink species are present in  
approx. equal amts. and together comprise .apprx.1 residue/  
collagen mol. This abnormal crosslink structure was  
also observed in bone collagen of humans and some other species.

AN 1983:213724 HCAPLUS <<LOGINID::20070911>>  
DN 98:213724  
TI Collagen cross-linking  
AU Eyre, David R.  
CS Dep. Orthop. Surg., Harvard Med. Sch., Boston, MA, USA  
SO Am. Acad. Orthop. Surg. Symp. Heritable Disord. Connect. Tissue (  
1982), Meeting Date 1980, 43-58. Editor(s): Akeson, Wayne H.;  
Bornstein, Paul; Glimcher, Melvin J. Publisher: Mosby, St. Louis, Mo.  
CODEN: 49SJAU  
DT Conference  
LA English

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=> s scoliosis or spine or spinal or (nucleus pulposis)

```
      439 SCOLIOSIS
      8099 SPINE
      69016 SPINAL
     266072 NUCLEUS
           2 PULPOSIS
           2 NUCLEUS PULPOSIS
             (NUCLEUS(W) PULPOSIS)
```

L1 74855 SCOLIOSIS OR SPINE OR SPINAL OR (NUCLEUS PULPOSIS)

=> s collagen or collagenous or (invertebrate disk)

```
      93286 COLLAGEN
      4217 COLLAGENOUS
      17767 INVERTEBRATE
     135338 DISK
           2 INVERTEBRATE DISK
             (INVERTEBRATE(W) DISK)
```

L2 94811 COLLAGEN OR COLLAGENOUS OR (INVERTEBRATE DISK)

=> s crosslink or crosslinking or genipin or proanthocyanidin or threose or lysyl oxidase or ribose

```
      16009 CROSSLINK
     205062 CROSSLINKING
          351 GENIPIN
          1849 PROANTHOCYANIDIN
           569 THREOSE
          6827 LYSYL
     124473 OXIDASE
          1066 LYSYL OXIDASE
             (LYSYL(W) OXIDASE)
```

L3 28471 RIBOSE
 243635 CROSSLINK OR CROSSLINKING OR GENIPIN OR PROANTHOCYANIDIN OR